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**REMARKS**

Claims 1-32 are currently pending in the subject application and are presently under consideration. Claims 1, 8, 11, 18 and 27 have been amended as shown on pp. 2-6 of the Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

**I. Objection to Claims 8, 18 and 27**

Claims 8, 18 and 27 stand objected to by the Examiner. Withdrawal of this objection is requested in view of the herein amendments to these claims.

**II. Rejection of Claims 1-19 Under 35 U.S.C. §101**

Claims 1-19 stand rejected under 35 U.S.C. §101 as being drawn to non-statutory subject matter. This rejection should be withdrawn for at least the following reason. The claims are in fact drawn to statutory subject matter.

The Examiner bases this rejection on a statement in the subject disclosure that a system may refer to software, and asserts that the claims lack a requirement for a computer-readable medium needed to realize the software functionality. However, it should be noted that independent claims 1 and 11 recite *a plurality of sensors*. Therefore, it is readily apparent that these claims are not limited to software as alleged by the Examiner, since sensors cannot be realized by software alone. Notwithstanding the recitation of a plurality of sensors, the Federal Circuit has held that software *per se* is patentable in *Eolas Techs., Inc. v. Microsoft Corp.*, 399 F.3d 1325 (Fed. Cir. 2005):

Title 35, section 101, explains that an invention includes "any new and useful process, machine, manufacture or composition of matter." ... Without question, *software code alone qualifies as an invention eligible for patenting under these categories*, at least as processes. *Id.* at 1338 (emphasis added).

It has also been held, in *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. (Fed. Cir. 1999):

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Because the claimed process applies the Boolean principle [abstract idea] *to produce a useful, concrete, tangible result* ... on its face the claimed process comfortably falls within the scope of §101. (Emphasis added).

Applicants' invention as claimed recites ... *a waveform analyzer component that receives data from the plurality of sensors and determines power data that is utilized by the load control component to determine the rate of energy distributed to the load, and to regulate the rate of energy utilized by the load.* It is readily apparent that the invention receives data from the sensors and produces, *a concrete, tangible, and useful result (e.g., determining rate of energy distributed to the load to regulate rate of energy utilized by the load).*

In view of at least the foregoing, this rejection of independent claims 1 and 11 (and claims that depend there from) should be withdrawn.

### **III. Rejection of Claims 1 and 7-10 Under 35 U.S.C. §102(b)**

Claims 1 and 7-10 stand rejected under 35 U.S.C. §102(b) as being anticipated by Woolard *et al.* (U.S. 6,178,362). This rejection should be withdrawn for at least the following reasons. Woolard *et al.* does not disclose each and every limitation set forth in the subject claims.

A single prior art reference anticipates a patent claim only if it *expressly or inherently describes each and every limitation set forth in the patent claim.* *Trintec Industries, Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 USPQ2d 1597 (Fed. Cir. 2002); *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). *The identical invention must be shown in as complete detail as is contained in the ... claim.* *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (emphasis added).

Applicant's claimed subject matter, as recited in claim 1, relates to *a load monitoring and management system, including a plurality of sensors associated with one or more loads, and a load control component.* The load control component has a

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*waveform analyzer component that receives data from the sensors and determines power data that is utilized by the control component so as to determine the rate of energy distributed to the load, and regulate the rate of energy utilized by the load.* Woolard *et al.* does not disclose or suggest these novel features.

Woolard *et al.* relates to an energy management system for a commercial facility that utilizes large physical plants. Woolard *et al.*'s system is divided in various subsystems, including an energy manager, a facility navigator, a facility manager, and an alarm manager. The Examiner cites several passages against the claimed *plurality of sensors*, including col. 3, line 61 through col. 4, line 6; col. 5, lines 1-29; and col. 5, lines 45 through col. 6, line 22. However, it is clear from inspection that nothing of the kind is disclosed in the passage at cols. 3 and 4. The cited passages at cols. 5 and 6 merely disclose measuring of energy data from *utility meters in the facility*. The reference does not teach or suggest *a plurality of sensors associated with one or more loads*, as recited in claim 1. In connection with the claimed *load control component*, the Examiner again relies on the above-cited passage at col. 5, lines 45 through col. 6, line 22. However, it is clear that this passage discloses an *energy manager* that receives *utility meter data* and performs a variety of analysis functions, *e.g., analyzing energy usage, analyzing energy load aggregating data, power procurement analyzing, etc.* Also, this passage shows an *alarm* that *generates an alarm signal to indicate deviations from an acceptable signal quality*. It is evident that Woolard *et al.* is simply a passive system that is only capable of monitoring, analysis and indicating an alarm. Therefore, Woolard *et al.* fails to disclose a *load control component* that, *inter alia, regulates the rate of energy utilized by the load*.

In view of the above, it is clear that the cited document fails to disclose or suggest every aspect of the claimed invention. Accordingly, the rejection of independent claim 1 (and claims that depend there from) should be withdrawn.

#### **IV. Rejection of Claims 11 and 16-18 Under 35 U.S.C. §102(b)**

Claims 11 and 16-18 stand rejected under 35 U.S.C. §102(b) as being anticipated by Forth *et al.* (US Patent Application Publication 2002/0120521). This rejection should be withdrawn for at least the following reasons. Forth *et al.* does not disclose each and every limitation set forth in the subject claims.

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Applicants' invention as recited in independent claim 11, relates to a *machine load metering and management system*. A *plurality of sensors* are associated with *one or more machines*. A *programmable logic controller (PLC)* collects data captured by the plurality of sensors and *determines and regulates the power to be distributed to one or more machines based at least in part upon metered data generated by a waveform analyzer component*. Forth *et al.* does not disclose or suggest these novel features.

Forth *et al.* relates to an intelligent electronic device (IED) that can be used for a number of different purposes, including a Programmable Logic Controllers (PLC) and an electric power (watt/hour) meter (see paragraph [0023]). The Examiner cites paragraph [0026] of Forth *et al.* against the claimed plurality of sensors. However, this paragraph simply discloses the operation and use of a meter or electric watt hour meter or electric energy meter. There is simply no disclosure in Forth *et al.* of an electric meter that could be construed as a *plurality of sensors associated with one or more machines* as recited in claim 11. The Examiner cites paragraphs [0023], [0025], [0026], and [0029] against the claimed PLC. However, paragraphs [0023], [0025], and [0026] merely disclose generalized descriptions of the functions of a PLC and an electric meter. Paragraph [0029] simply discloses a manner in which an IED can be used as a power measuring device, placed on a line near a load for measuring or monitoring power system parameters. Forth *et al.* is silent with respect to a *waveform analyzer component* that *generates metered data* that is used by a PLC to *determine and regulate the power to be distributed to one or more machines*, as claimed.

In view of the above, it is clear that the cited document fails to disclose or suggest applicants' claimed invention. Accordingly, this rejection of independent claim 11 (and claims that depend there from) should be withdrawn.

**V. Rejection of Claims 2, 6, 20, 22 and 24-26 Under 35 U.S.C. §103(a)**

Claims 2, 6, 20, 22 and 24-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* in view of Schienbein *et al.* (U.S. 6,738,692). This rejection should be withdrawn for at least the following reasons. Woolard *et al.* and Schienbein *et al.*, individually and in combination, do not disclose or suggest all the limitations of the subject claims.

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To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §706.02(j).

Independent claim 20 recites a method for metering a load. Data is received from *one or more sensors associated with one or more loads*. The data is transferred from one or more sensors *to a backplane device*. The data is then *time-stamped from individual sensors as it arrives*, and is stored in memory. The *time stamped data and energy algorithms are utilized to meter a load*. Woolard *et al.* and Schienbein *et al.*, alone or in combination, do not disclose or suggest these novel features.

The Examiner cites the same passages of Woolard *et al.* against independent claim 20 in a manner similar to claim 1, and the arguments made above are reiterated herewith. Against the time-stamping of claim 20, the Examiner additionally argues that Woolard *et al.* teaches recording history and determining trends of data, which would require time stamps. However, the cited passage of Woolard *et al.* discloses retrieving and comparing historical energy usage with real-time energy usage. It is readily apparent that the claimed act of *time-stamping the data from individual sensors as it arrives* is not in any way suggested by such a comparison since *historical energy usage* can be determined in any number of ways that do not require a time-stamp. Thus, Woolard *et al.* fails to actually disclose the subject matter for which this document is cited. The Examiner admits that Woolard *et al.* fails to teach *transferring data from one or more sensors to a backplane device*, as recited in claim 20. The Examiner relies upon Schienbein *et al.* to teach a backplane system to connect components, citing col. 4, lines 39-51. However, the cited passage is merely a description of a generic backplane that can be used in a modular, integrated power conversion and energy management system. There is nothing in this reference to suggest how such a modular, integrated unit could be adapted into an energy analysis system for a large facility utilizing physical plants, as is

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disclosed by Woolard *et al.* It is respectfully submitted that no such combination of these references could be contemplated unless guided by the subject disclosure employing a 20/20 hindsight road map to the claimed subject matter. But the above notwithstanding, Schienbein *et al.* clearly fails to overcome the deficiencies of the Woolard *et al.*, so even if a combination of these references could be contemplated, it would still fail to show each and every aspect of the claimed subject matter.

In view of at least the foregoing arguments, it is readily apparent that the cited documents, taken alone or in combination, do not disclose or suggest every aspect of the claimed invention. Accordingly, the rejection of independent claim 20 (and associated claims that depend there from) should be withdrawn. The rejection of claims 2 and 6 that depend from claim 1 should also be withdrawn.

**VI. Rejection of Claims 3-5 Under 35 U.S.C. §103(a)**

Claims 3-5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* in view of Schienbein *et al.* as applied to claim 2 above, and further in view of Holle *et al.* (US Patent Application Publication 2004/0150384). Withdrawal of this rejection is requested for at least the following reasons. Claims 3-5 depend from dependent claim 2, which in turn depends from independent claim 1; and as stated *supra*, Woolard *et al.* does not disclose or suggest every limitation set forth in the subject independent claim, and Schienbein *et al.* and Holle *et al.* do not cure the aforementioned deficiencies. Accordingly, this rejection should be withdrawn.

**VII. Rejection of Claims 12-14 and 19 Under 35 U.S.C. §103(a)**

Claims 12-14 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Forth *et al.* in view of Schienbein *et al.* Withdrawal of this rejection is requested for at least the following reasons. Claims 12-14 and 19 depend from independent claim 11; and as stated *supra*, Forth *et al.* does not disclose or suggest every limitation set forth in the subject independent claim, and Schienbein *et al.* does not cure the aforementioned deficiencies. Accordingly, this rejection should be withdrawn.

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**VIII. Rejection of Claim 15 Under 35 U.S.C. §103(a)**

Claim 15 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Forth *et al.* in view of Woolard *et al.* Withdrawal of this rejection is requested for at least the following reasons. Claim 15 depends from dependent claim 14, which was rejected under a combination Forth *et al.* in view of Schienbein *et al.* However, the instant rejection of claim 15 does not reference the latter reference. So the rejection of claim 15 is improper and should be withdrawn for at least this reason. In any event, claim 15 ultimately depends from independent claim 11; and as stated *supra*, Forth *et al.* does not disclose or suggest every limitation set forth in the subject independent claim, and Woolard *et al.* does not cure the aforementioned deficiencies. Accordingly, this rejection should be withdrawn.

**IX. Rejection of Claim 21 Under 35 U.S.C. §103(a)**

Claim 21 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* in view of Schienbein *et al.* as applied to claim 20 above, and further in view of Hart (US 5,995,911). Withdrawal of this rejection is requested for at least the following reasons. Claim 21 depends from independent claim 20; and as stated *supra*, the combination of Woolard *et al.* and Schienbein *et al.* does not disclose or suggest every limitation set forth in the subject independent claim, and Hart does not cure the aforementioned deficiencies. Accordingly, this rejection should be withdrawn.

**X. Rejection of Claim 23 Under 35 U.S.C. §103(a)**

Claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* in view of Schienbein *et al.* as applied to claim 20 above, and further in view of Hubbard *et al.* (U.S. Patent No. 6,094,622). Withdrawal of this rejection is requested for at least the following reasons. Claim 23 depends from independent claim 20; and as stated *supra*, the combination of Woolard *et al.* and Schienbein *et al.* does not disclose or suggest every limitation set forth in the subject independent claim, and Hubbard *et al.* does not cure the aforementioned deficiencies. Accordingly, this rejection should be withdrawn.

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**XI. Rejection of Claims 27, 28 and 30-32 Under 35 U.S.C. §103(a)**

Claims 27, 28 and 30-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* in view of Schienbein *et al.* and Holle *et al.* This rejection should be withdrawn for at least the following reasons. Woolard *et al.* and Schienbein *et al.* and Holle *et al.*, individually and in combination, do not disclose or suggest all the limitations of the subject claims.

Independent claim 27 recites *a method for monitoring and managing loads. Load data is retrieved from one or more sensing devices. Energy data is derived using a microprocessor located on a printed circuit board inserted in a slot on a backplane and the load data received from the sensing devices. A load control strategy is determined based at least in part on the derived energy data, and the loads are controlled according to the control strategy.* Woolard *et al.*, Schienbein *et al.* and Holle *et al.*, alone or in combination, do not disclose or suggest these novel features.

As with the above-noted rejections, the Examiner again cites the same passages of Woolard *et al.* against independent claim 27 in a manner similar to independent claims 1 and 20, and the arguments made above are reiterated herewith. In connection with *deriving energy data using a microprocessor and determining a load control strategy and controlling loads according to the control strategy*, the Examiner once again relies on the passage from col. 5, line 45 through col. 6, line 22. But as has been shown at length above, this passage simply discloses an *energy manager* that receives *utility meter data* and performs a variety of analysis functions, *e.g., analyzing energy usage, analyzing energy load aggregating data, power procurement analyzing, etc.* The Woolard *et al.* system is simply a passive system that is only capable of monitoring, analysis and indicating an alarm. Woolard *et al.* fails to disclose *determining a load control strategy and controlling loads according to the control strategy*, as is recited in claim 27. It is also noted that Woolard *et al.* fails to explicitly disclose a microprocessor, as indicated in the instant Office Action. In any case, the Examiner admits that Woolard *et al.* fails to disclose a *microprocessor located on a printed circuit board inserted in a slot on a backplane* as claimed. The Examiner again cites the same sections of Schienbein *et al.* that simply disclose a generic description of a backplane system to connect components. The Examiner makes no attempt to show the other components from Schienbein *et al.*



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Holle *et al.* is cited for disclosing such components, citing paragraphs [0069] and [0070]. However, these paragraphs simply disclose a "laundry list" of electronic components in a *measurement module*. But there is no disclosure in these references, alone or in combination, to show *deriving energy data using a microprocessor located on a printed circuit board inserted in a slot on a backplane and the load data received from the sensing devices*, as in the subject claims. It is respectfully submitted that this is a piecemeal rejection and that one skilled in the art would not have arrived at such a combination unless guided by a hindsight reading of the subject disclosure. Notwithstanding, Schienbein *et al.* and Holle *et al.* plainly fail to overcome the deficiencies of the Woolard *et al.*, so even if a combination of these references could be contemplated, it would still fail to show each and every aspect of the claimed subject matter. In view of at least the foregoing arguments, it is readily apparent that the cited documents, taken alone or in combination, do not disclose or suggest every aspect of the claimed invention. Accordingly, the rejection of independent claim 27 (and associated claims that depend there from) should be withdrawn.

## **XII. Rejection of Claim 29 Under 35 U.S.C. §103(a)**

Claim 29 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* in view of Schienbein *et al.* and Holle *et al.* as applied to claim 27 above, and further in view of Hart. Withdrawal of this rejection is requested for at least the following reasons. Claim 29 depends from independent claim 27; and as stated *supra*, the combination of Woolard *et al.* and Schienbein *et al.* and Holle *et al.* does not disclose or suggest every limitation set forth in the subject independent claim, and Hart does not cure the aforementioned deficiencies. Accordingly, this rejection should be withdrawn.

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CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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